REMARKS

This paper is submitted in reply to the Office Action dated March 17, 2006, within the three-month period for response. Since June 17, 2006 is a Saturday, the period for response extends up to and includes June 19, 2006, and this paper is timely filed. Reconsideration and allowance of all pending claims are respectfully requested.

In the subject Office Action, claims 1-38 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Additionally, claims 4-5, 8, 10-12, 14-15, 24, 27, 29, 33-36 were rejected under 35 U.S.C. § 112 second paragraph. Moreover, claims 1-2, 4-5, 18, 21-22, 24 and 37-38 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,450,592 to McLeod (McLeod). Claims 3, 6-9, 23 and 25-28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over McLeod in view of U.S. Patent No. 6,314,563 to Agesen et al. (Agesen), and claims 10, 13-17, 29 and 32-36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over McLeod in view of U.S. Patent No. 5,706,515 to Connelly et al. (Connelly).

Applicants appreciate the Examiner acknowledging the patentable subject matter of claims 11-12, 19-20 and 30-31. However, Applicants respectfully traverse the Examiner's rejections to the extent that they are maintained. Applicants have nonetheless amended claims 1, 14, 15, 19, 21, 23, 32-35 and 38 to include the subject matter acknowledged as patentable, and have canceled claims 10, 11, 29 and 30 to further the case onto allowance. Applicants respectfully submit that no new matter is being added by the above amendments, as the amendments are fully supported in the specification, drawings and claims as originally filed.

Now turning to the subject Office Action, and particularly to the § 101 rejections, Applicants have amended each independent claim to expressly include language pertaining to using diagnostic data, e.g., a time increment, to analyze program execution. As described on page 28, line 20 through page 29, line 3 of the specification as originally filed, such analysis focuses debugging efforts on resources associated with disproportionate thread waiting times. Such information may facilitate the targeting of potential programming and/or hardware problems within a system. As this useful,

concrete result is proper statutory subject matter under § 101, Applicants respectfully request that the § 101 rejections be reconsidered.

Next with respect to the § 112 rejections, and more specifically claims 4 and 24, Applicants refer Examiner to the text describing block 96 of Fig. 3, beginning at line 9 of page 26, for a description of determining the type of resource for which a thread is waiting. Additional details describing the mechanism for accomplishing the determination can be found in the preceding two pages, 24 and 25 of the specification.

Regarding claims 8 and 27, Applicants respectfully direct Examiner's attention to the text beginning at line11 of page 21 through line 5 of page 22 for a description of reassigning identifiers in order to isolate resource of particular interest. Resources may include processing cycles and memory, among other resources described beginning at line 9 of page 2 of the specification.

Detection of a locking occurrence as recited in claims 10 and 29 is described at page 24, lines 7-10, with general information related to locks described at page 3, lines 5-9 of the specification. As such, Applicants respectfully request that claimed subject matter of all of the claims is claimed and pointed out with particularly, and that the § 112 rejections be reconsidered.

Now turning to the art-based rejections, each independent claim has been amended to include subject matter acknowledged by the Examiner as being patentable. More specifically, independent claim 1 has been amended to incorporate the subject matter of claim 11, and generally recites a method of analyzing program execution within an operating system of a multithreaded environment. The method includes accumulating diagnostic data pertaining to a thread accessing a resource, the execution of a thread being predicated upon the thread's access to the resource within the multithreaded environment, and storing the diagnostic data within a data structure at a location in the data structure correlated to the resource. As amended, the method includes detecting a locking occurrence associated with the thread; calculating a time increment corresponding to a duration that the thread remains locked; and using the time increment to analyze the program execution.

Applicant respectfully submits that the prior art cited by the Examiner fails to disclose or suggest these features. Reconsideration and allowance of independent claim 1, as well as of claims 2-9 and 12-18 that depend therefrom, are therefore respectfully requested.

Next turning to the rejection of independent claim 21, this claim has been amended to incorporate the subject matter of claim 30, and generally recites an apparatus that includes at least one processor configured to execute a plurality of threads, a memory, and program code resident in the memory and configured to execute on the at least one processor, the program code configured to accumulate diagnostic data pertaining to a thread accessing a resource, the execution of a thread being predicated upon the thread's access to the resource, and to store the diagnostic data within a data structure at a location in the data structure correlated to the resource. The program code initiates a detection of a locking occurrence associated with the thread and calculates a time increment corresponding to a duration that the thread remains locked to facilitate use of the time increment in analyzing the program execution.

Applicant respectfully submits that the cited prior art fails to disclose or suggest the above features, including those directed towards subject mater acknowledged as patentable by the Examiner. Reconsideration and allowance of independent claim 21, and of claims 22-28 and 31-37 that depend therefrom, are therefore respectfully requested.

Finally with regard to the rejection of independent claim 38, this claim has been amended in a similar manner to claim 21, and generally recites a program product that includes program code executable by a computer for analyzing program execution within an operating system of a multithreaded environment, wherein the program code is configured to accumulate diagnostic data pertaining to a thread accessing a resource, the execution of a thread being predicated upon the thread's access to the resource, and to store the diagnostic data within a block of the memory correlated to the resource, and a recordable medium bearing the program code. The program code initiates a detection of a locking occurrence associated with the thread and calculates a time increment corresponding to a duration that the thread remains locked, facilitating use of the time

increment to analyze the program execution. As the cited prior art fails to disclose or suggest these features, reconsideration and allowance of independent claim 38 are therefore respectfully requested.

In summary, Applicants respectfully submit that all pending claims are novel and non-obvious over the prior art of record. Reconsideration and allowance of all pending claims are therefore respectfully requested. If the Examiner has any questions regarding the foregoing, or which might otherwise further this case onto allowance, the Examiner may contact the undersigned at (513) 241-2324. Moreover, if any other charges or credits are necessary to complete this communication, please apply them to Deposit Account 23-3000.

Respectfully submitted,

June 19, 2006
Date

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